Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-9. Canceled

10. (Currently Amended) A method for determining whether an agent is an agonist of ~~the~~ a plasma membrane receptor ~~of claim 1~~ ER-X, which comprises

a) contacting the plasma membrane receptor ER-X with the agent under conditions which permit (i) the formation of a complex between the plasma membrane receptor ER-X and a known agonist of the plasma membrane receptor ER-X, and (ii) the generation of a detectable signal upon formation of ~~a~~ the complex between the receptor and the known agonist; and

b) determining whether ~~a~~ the detectable signal is generated in step (a), wherein the generation of such detectable signal ~~indicating that~~ indicates the agent is an agonist of the plasma membrane receptor ER-X

wherein the plasma membrane receptor ER-X has a molecular weight of 62-63kDa and is obtainable by (i) contacting a neocortex tissue lysate from an estrogen receptor-α knockout mouse with a murine monoclonal antibody raised against estrogen receptor alpha (ER-α) designated 6F11 under conditions which permit the formation of a complex between the 6F11 antibody and ER-X; (ii) capturing the complex between the 6F11 antibody and ER-X with an anti-mouse IgG-coated polystyrene magnetizable bead; (iii) precipitating the complex; and (iv) separating ER-X from the complex based upon molecular size.

11. (Currently Amended) The method of claim 10, wherein the detectable

signal comprises an increase in ERK1/2 phosphorylation.

12. (Currently Amended) A method for determining whether an agent is an antagonist of ~~the~~ a plasma membrane receptor ~~of claim 1~~ ER-X, which comprises

a) contacting the plasma membrane receptor ER-X with the agent in the presence of a known agonist of the plasma membrane receptor ER-X under conditions which permit (i) the formation of a complex between the plasma membrane receptor ER-X and the known agonist in a concentration of at least 0.1pM and less than 100pM; and (ii) the generation of a detectable signal upon the formation of ~~a~~ the complex between the receptor and the agonist; and

b) comparing the detectable signal~~, if any,~~ generated in step (a) with the detectable signal generated in the absence of the agent, wherein the generation of a detectable signal in the agent's absence being greater than ~~that generated in the agent's presence indicating~~ the detectable signal generated in step (a) indicates ~~that~~ the agent is an antagonist of the plasma membrane receptor ER-X

wherein the plasma membrane receptor ER-X has a molecular weight of 62-63kDa and is obtainable by (i) contacting a neocortex tissue lysate from an estrogen receptor-α knockout mouse with a murine monoclonal antibody raised against estrogen receptor alpha (ER-α) designated 6F11 under conditions which permit the formation of a complex between the 6F11 antibody and ER-X; (ii) capturing the complex between the 6F11 antibody and ER-X with an anti-mouse IgG-coated polystyrene magnetizable bead; (iii) precipitating the complex; and (iv) separating ER-X from the complex based upon molecular size.

13. (Currently Amended) The method of claim 12, wherein the detectable signal comprises an increase in ERK1/2 phosphorylation.

14.-41. Canceled

42. (New) The method of claim 12, wherein the known agonist is 17α-estradiol.